Official Amendment
Serial No. – 10/625,886
Docket No. – UVD 0299 IA / UD 268

REMARKS

Claims 1-166 were pending in the present application. Claims 1, 6, and 137 have been amended. As support for these amendments is provided for by the specification, no new matter has been entered. Claims 12-34, 39, 40, 48-50, 56-136, 138, and 139 were withdrawn from consideration. As a result of this amendment, claims 1-11, 35-38, 41-47, 51-55, and 137 are pending. Reexamination and reconsideration are requested in light of the accompanying amendments and remarks.

The rejection of claims 1, 4-11, 35-38, 51-53, 55, and 137 under 33 U.S.C. § 102(b) as being anticipated by PCT publication WO 98/48075 (treated as equivalent to U.S. Patent No. 6,200,672 to Tadokoro) has been overcome. Tadokoro teaches "a surface treated metal sheet which is coated with a layer comprising as main components, *a complex and/or salt* between *a rare earth metal element and an organic compound* having in the molecule one or more functional groups selected from among -O-, =O, -OH, -COOH, $-NH_2$, -NH, =N-, -SH, $-SO_3H$ and phosphoric groups, and *a matrix which physically holds the above and has adhesive power for metal sheets*, as well as a metal surface treatment solution used therefore." Abstract.

According to the examiner, "Tadokoro teaches an aqueous metal surface treatment fluid comprising a rare earth element such as tetravalent cerium (col. 5 lines 6-9) and oxyacid anions such as phosphate, tungstate, vanadate anions, wherein the rare earth metal elements and the oxyacid anions form oxyacid compounds (col. 9 lines 28-33)." However, col. 5, lines 6-9, and col. 9, lines 28-33 refer to different components of the coating. One component is a *complex and/or salt* between a rare earth element and an organic compound having certain functional groups (rare earth metal complex). The second component is a *matrix* capable of holding the rare earth metal complex and having adhesive power for metal sheets. See Abstract, col. 3, lines 12-20 and 61-67, col. 13, lines 43-55, and Tables 1 and 2. The discussion at col. 5, lines 6-9 refers to the first component, the rare earth metal complex. See col. 4, line 52 to col. 5, line 35, and col. 10, line 64 to col. 11, line 48. The discussion at col. 9, lines 28-33 refers to the second

component, the matrix. See col. 7, lines 46-60, col. 9, lines 26-43, col. 10, lines 4-8, col. 12, line 43 to col. 13, line 42.

The examiner also stated that "Tadokoro further teaches a rare earth metal complex comprising rare earth elements such as tetravalent cerium and an inorganic compounds [sic] such as phosphates, nitrates and sulfates (col. 5 lines 27-31)." However, col. 5, lines 27-31 does not refer to a complex between a rare earth metal and an inorganic compound. As explained at col. 5, lines 24-27, the rare earth metal complex (i.e., the complex and/or salt between a rare earth element and an *organic* compound) can have an inorganic compound as a ligand. "In the case of a complex, there is no problem if it *also contains an inorganic compound as a ligand in addition to the organic compound.*"

With respect to claims 1 and 9-11, the examiner stated that "the tetravalent cerium of Tadokoro reads on the claimed rare earth element and the phosphate, tungstate, vanadate, sulfate and nitrate of Tadokoro read on the claimed inorganic valence stabilizer. The oxyacid compound or the rare earth metal complex of Tadokoro reads on the rare earth/valence stabilizer complex." However, Tadokoro does not teach a seal, as claimed. Metals and metal alloys can have coatings such as anodized coatings, phosphate coatings, or black oxide coatings, applied to their surface for corrosion protection. These coating frequently exhibit flaws, such as pores, pinholes or thin portions in the coating after formation and do not contain any inherent means to repair these coating breaches. The application of a second solution is necessary to fill the pores in the coating and deposit compounds that will act as long-term corrosion protective species. The claimed seals are applied to anodized coatings, phosphate coatings, and black oxide coatings. See p. 2, lines 12-29. Tadokoro teaches applying a layer comprising as major components a rare earth metal complex, and a matrix. The matrix physically holds the rare earth metal complex, and has adhesive power for metal sheets. See Abstract, and col. 7, lines 45-49. Some matrix materials are said to control corrosion by their barrier effect, with excess oxyacid forming oxyacid salt layer-type passive layers or oxide layer-type passive layers. See col. 9, lines 34-43. Tadokoro's matrix holds the rare earth metal complex. Tadokoro does not teach

applying its coating over anodized coatings, phosphate coatings, or black oxide coatings. It is simply a layer deposited on the metal surface, not a post-treatment applied over anodized coatings, phosphate coatings, or black oxide coatings. Thus, it is not a seal, as claimed.

With respect to claim 6, the examiner states that "Tadokoro teaches the claimed phosphate compound ad [sic] claimed." However, Tadokoro does not teach a seal formed on a coating selected from anodic coatings, phosphating coatings, or black oxide coatings where the "anodic coatings, phosphating coatings, or black oxide coatings comprise a compound selected from oxides, hydroxides, phosphates, carbonates, oxalates, silicates, aluminates, borates, polymers, or combinations thereof," as claimed. No citation to Tadokoro is provided, and Applicants respectfully request clarification. Applicants note that the reference to phosphate at col. 5, lines 27-31 refers to the fact that the rare earth metal complex can have an inorganic compound as a ligand, as discussed above. This is not a teaching of a phosphate coating on the metal.

With respect to claims 7-8, the examiner stated that "Tadokoro teaches vanadate anion and cerium forming an oxyacid compound. Therefore, the vanadium ion reads on the claimed additional ion. Since the oxyacid compound of Tadokoro reads on the claimed rare earth/valence stabilizer, the examiner asserts that the rare earth/valence stabilizer as taught by Tadokoro inherently has a central cavity containing cerium as claimed." However, claim 8 recites that the "rare earth/valence stabilizer complex has a central cavity containing a cerium, praseodymium, or terbium ion and an additional ion." The vanadium ion in a cerium/vanadate complex is not an additional ion in the central cavity as claimed. As discussed on p. 167, line 30 to p. 168, line 20, the central cavity of the heteropolymetallates can contain an ion in addition to cerium. Examples include silicomolybdates, phosphomolybdates, silicotungstates, and phosphotungstates. In these complexes, the central cavity contains a Si^{+4} or P^{+5} ion in addition to the cerium ion. The molybdenum or tungsten is not in the central cavity; rather, it forms the central cavity. Thus, with a cerium/vanadate complex as described in Tadokoro, the vanadium is not in the central cavity, as claimed.

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